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APRIL, 1888.

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THE WEST AMERICAN SCIENTIST.

VOL. 4. APRIL, 1888. No. 36

A NIGHT WITH THE STARS.

Soon after sunset we ascended Prospect Hill, on the brow of which stands our new observatory, and prepared to spend a portion of the night in contemplation of the heavens. It was the time of early spring, and as we looked off from the summit of the hill the surface of the earth seemed very fair. We were standing upon the first elevation that rose up from the level valley, and in front of us the green plains stretched away to the blue waters of San Francisco Bay. On the right were seen portions of three cities, the great metropolis and its vigorous young neighbors, Oakland and Alameda. As darkness began to settle down, the electric lights flashed out sharply in the distance from many lofty towers like stars of the first magnitude, while many lesser lights from gas jet, lamp and candle, could be seen twinkling like the feebler members of the constellations.

On the left, the broad valley could be seen, dotted with clumps of trees and checked by fences, and in the distance arose a nebulous glimmer from thriving villages embosomed in the midst of numberless orchards and market gardens; while against the northern sky, as a dark and solid background, rose the everlasting hills, diversified by a dark gorge and rounded knoll, and crowned by rough ledges and old trees. Just below us, in the center of the campus which itself is a little paradise, surrounded by trees and gardens and guarded by a merry brook on either side, stood the many-windowed college, all lighted up for the evening study-hour.

Such were the scenes which met our eyes as we paused for a moment before entering the neat building from whose tower we were to look far off into the clear sky. Earth was indeed very beautiful; but then it was very near and easy to observe. Yet as the twilight faded, things around us seemed more and more indistinct, while the glories of the sky shone out brighter and brighter. And so we turned away from the freshness of the spring landscape, and took in the situation of the heavenly bodies.

In the south was Orion, its chief stars keen and glittering, while the minor ones were just flashing out, or winking like sleepy children. Near by was Canis Major, in which shone the

royal Sirius, undisputed king of all the fixed stars. The western Zodiacal region was faintly luminous with that great cone of light so plainly seen at this season of the year, extending past the three stars of The Ram, almost up to the twinkling Pleiades. The other parts of the constellation, Taurus, were high up near the zenith, the most conspicuous star being the red Aldebaran. The Twins followed closely, and near the faint cluster of stars which mark the place of Cancer was seen the bright planet Saturn. To the east of this was the great sickle of Leo, and the last star of that constellation, Denebola, had just showed itself above the eastern hills. On the north were the ever-present attendants of the pole, Ursa Major, Cassiopeia and the minor constellations, while very near the zenith shone the circle of Auriga, with its star of the first magnitude, the bright Capella.

Having taken this general survey, a sight which is open to the observation of every one who is blessed with sight and who can view the open sky, we uncovered the great eye of the telescope and pointed the instrument toward the well-known nebula in Orion. We applied a low power, to give a broad field and plenty of light, and then we looked in silent admiration. Filling the whole circle of vision was a misty, luminous cloud, brighter near its center, and extending on either hand into fading wisps of light, which seemed to lie upon the dark sky like scatterings of white down. On the right side was a wide gap in the nebula, and the striking contrast between light and darkness made the sky behind this gap look like an inky space, deep and desolate. Several bright stars shone out in the midst of the nebula; one group of four, which seem very close together, is called the Trapezium. Under favorable circumstances two others are seen in this group, and lately, by the aid of the great telescope on Mt. Hamilton, a seventh has been observed.

From this, the most beautiful of nebulæ, it was easy to turn to Sirius, the grandest of the stars. As the tube came nearly into line with the beams of light which have for many months been hastening hither from that tremendous sun, lo, a bright dawn filled the field of the telescope! And then the orb itself shone out—brighter, keener, infinitely more full of white, hot energy than the electric light. Flashing, various and changing colors, splendid with the sharpest light conceivable, brilliant and lustrous as a diamond of the purest water, this magnificent star is doubtless the chiefest gem of all the sky.

The planet Saturn next claimed our attention, and in it we found a less brilliant, but equally beautiful object for observation. To the naked eye it appeared as a bright yellow star, but in the telescope we saw a luminous globe, surrounded by a shining ring a little inclined to our line of vision, so that it looked like a narrow ellipse. Steady and quiet, without the flashing splendor of Sirius, it shone in tranquil beauty, a mighty planet, surrounded by a

brilliant halo, such as the old painters placed around the head of the Holy One.

Having now examined the three most beautiful objects in the evening sky, we left the observatory for a few hours, till the rolling earth should bring into view new scenes of interest and beauty.

[TO BE CONTINUED.] *Josiah Keep.*

THE WEST AMERICAN MUSEUM.

It is considered advisable at this time to place a brief statement before the people of San Diego, and others who may be interested, relative to the plans of an institution that is soon to be organized and that is to have its existence in this fair city. Correspondence and consultations have been carried on confidentially with some fifty interested parties during the past few months. Very flattering encouragement has been received as the result. It is now desired to effect immediate organization; to facilitate the necessary preliminary work before incorporation a brief outline of the proposed institution is presented, that its friends may come forward and co-operate with us in the work.

OBJECT.

A Museum should contain the results of researches, should be a custodian of records and preëminently it should be a factor in public education. Indispensible adjuncts to a Museum are libraries, laboratories for the prosecution of original investigations by specialists, schools for the training of its own workers in the best methods known, and the publication of the results of its works and discoveries.

The work of the Museum is not intended to consist merely in the forming, preservation and accumulation of material (which is the ostensible aim); it is also intended to aid in the increase and diffusion of knowledge, to secure as complete data relative to each object as possible, and a new fact should be more highly prized than simple additions to the cabinets without corresponding additions to our knowledge.

The forming of collections is of inestimable value in facilitating the study of nature, science and history, and cannot well be overestimated, but it need not necessarily interfere with, or preclude equally important matters.

SCOPE.

It is not proposed to limit the scope of the Museum in any way. Its immediate field consists of the west coast of the American continent, extending from Alaska to Cape Horn. Arrangements are being made for the forming of large and exhaustive collections representing the fauna and flora, natural resources, pre-historic remains, etc., etc., of the two Americas.

Original investigations and extensive explorations will be con-

ducted at an early day, it is hoped, especially throughout interior Mexico, Central America and elsewhere.

The very comprehensive plan of the proposed Museum, if carried to completion, would rival any Institution in America, not even excepting the U. S. National Museum, in charge of the Smithsonian Institution. But such results require time for maturity. 'All things are possible' is an Arabic saying, and the little collection displayed on a tea plate a dozen years ago, grown to its present proportions, may yet rival the accumulation of ages under the genial skies of California.

THE ORCUTT COLLECTIONS.

The C. R. Orcutt Miscellaneous Collections will naturally be incorporated into and form the nucleus of the West American Museum of Nature and Art. These collections are estimated to contain over one thousand specimens, and are largely representative of the fauna and flora and other natural resources of Southern and Lower California. The herbarium is very complete; so also are the series of shells, fossils, minerals, etc., etc.

In addition to the plants of this region the herbarium contains plants from the Eastern States and Europe. The display of native grasses of San Diego and vicinity, awarded a diploma at the First Horticultural Fair held in San Diego, forms a portion of the herbarium and one feature of the Department of Economic Botany of the proposed Museum.

The Forestry Department, also connected with the Division of Botany, will be a special feature of the Museum, and it will be our policy to develop the local resources especially, after the plan of the Jessup collection in the American Museum of Natural History, of New York City. A fine series of wood sections of California, Eastern and West Indian trees and shrubs (also awarded a diploma at the first Horticultural Fair held in San Diego), and to which many additions have lately been made, forms a nucleus for this section of the Museum. The above series of woods is supplemented by a great variety of nuts and seeds from various parts of the world.

The work of the Department of Economic Botany will also include the introduction and distribution of seeds and plants, which will form a very important feature and materially aid in the establishment of a botanic and experimental garden in connection with the Museum. The wholesale seed and plant business, which has been conducted by C. R. Orcutt during the last eight years, will greatly facilitate the carrying out of very comprehensive plans relative to this work, and will render this department self-supporting should it be considered necessary or desirable by the management that it should yield an income.

THE LIBRARY.

An indispensible adjunct to a Museum is a library. At the present time, Pacific Coast students are compelled, in their prose-

cutions of original biological investigations, to consult Eastern, and in many cases, European libraries, from the lack of any libraries of note in California of a scientific character.

A feature that should be prominent in every library is the preservation of local history. No library is nearly complete without complete files of all the newspapers, magazines, and posters, and circulars, as it is possible to secure. Every book or other publication, containing even the slightest reference to the region, should be preserved, and especially all Government reports and scientific papers—often fugitive essays in foreign papers or magazines, or in the proceedings of some society far removed. These papers are often indispensable to the historical or biological student to avoid error, incompleteness and injustice to others in his own work.

The library of C. R. Orcutt contains some thousands of scientific books, pamphlet, stray papers, files of newspapers, and the files of scientific and other exchanges of the WEST AMERICAN SCIENTIST, which is being continually added to through various exchanges and purchases. In some respects the collection is unique and could not well be duplicated without great expense and trouble. Among the older volumes are two bearing the date of 1771. Some of the scientific books are valued as high as $40.00 for a single volume.

PUBLICATIONS.

THE WEST AMERICAN SCIENTIST will continue to be published monthly, and become the organ of the Museum. The influence of the magazine will be greatly to the advantage of the Museum at the start, and the exchanges with other magazines, individuals and societies, and literature received for review will very materially augment the library.

It will doubtless be found desirable to issue other series of publications such as bulletins, annual reports, memoirs, etc.; but these will not be immediately necessary. It will be best to establish a liberal system of exchanges throughout the United States and Europe, this often being the only way of securing invaluable publications of some foreign institutions.

EXCHANGES.

In addition to a system of exchanges of publications it will be necessary to arrange to exchange with other American institutions and individuals and foreign societies, sending them specimens of our plants and animals, minerals and fossils, in return for which they will gladly send us series for their own countries.

ORGANIZATION AND GOVERNMENT.

It is proposed to incorporate at an early date, under the laws of the State of California. The government of the Museum will be in the hands of a Board of Regents, consisting of ladies or

gentlemen chosen especially for their services in the cause of science, and who therefore seem suitable for the position. The number of Regents shall not exceed twenty-five at one time.

The general management and executive work of the Museum will be in the hands of the Director, who shall be responsible only to the Board of Regents, of which he shall be a member.

THE MUSEUM STAFF.

In addition to the officers and regents of the institution, there are more than a score of young men ready to enter the service of the Museum in any capacity, willing virtually to give their time to work. These stand ready to enter the field in making explorations and collections in any region we may designate as soon as we can guarantee their nominal expenses.

'It will not do to neglect nor slight these offers of services,' writes a friend of the institution, 'so willing to work hard and fare poorly, and with so good character and aims. These young men seem raised up for our work, and ready to give good aid from the start, and willing to do anything.'

We hope to receive sufficient encouragement and financial aid to very shortly avail ourselves of these offers of assistance and service which we have received from men of ability and experience—some even of national renown.

Further statements will be made in the near. A block of land valued at $20,000.00 has been donated for the site of the proposed Museum. Other donations of land, money, books or specimens will soon be in order.

THE TEA ROSE CRAB.

In 1862-3 this tree, Pyrus Malus Parkmanii, was received from Japan, by the late Col. Francis L. Lee, and by him given to Dr. Francis Parkman, in whose delightful garden it stands to-day. It is about 12 feet high, and full as wide, and has an exceedingly dense head of fine branches, resembling in its habit of growth a fine thorn. It has a remarkable habit of flowering the whole length of the past season's growth as well as from the older spurs, and each bud produces regurlarly five blossoms. These are set on stems three inches long, and so slender that they bend with the weight of the bud or bloom, in a very graceful fashion. The buds themselves are of a rich carmine color, and are in shape exactly like a choice tea-rose bud, only more slender, while full as long. They are almost precisely like, in color and form, the new tea-rose Pere Gontier, only not so large. This is a point of great importance in looking for a perfect apple blossom, as all others so far known, have the ends of the buds blunt and ill-formed. The fully opened blossoms are semi-double and of a lighter carmine color than the buds. The foliage is narrow, wedge-shaped, very firm, and quite glossy, being curiously dis-

tinct from all others of the apple family, and takes on in autumn the richest crimson and orange colors. The whole tree is a rich cloud of carmine colors, and the superb gracefulness of the whole is indescribable.

We are indebted to the Shady Hill Nurseries, Cambridge, Mass., for the beautiful illustration of this crab presented our readers this month. It is being introduced and is for sale by them. Our readers are advised to send them their address for their new catalogue containing colored plates of various novelties.

A NEW ROSE-GALL.

A spherical gall, an inch or more in diameter, is very frequent on the wild rose in this neighborhood. (Swift Creek, Custer Co., Colo.) Its surface is somewhat shiny, usually corrugated, in color reddish-yellow varying to pink and dull purplish. It grows surrounding the rose twig, so that it projects beyond and from the middle of the gall. In an old gall, from which most of the insects had escaped, I was fortunate in finding a dead and somewhat imperfect specimen of the imago, which is about three millimeters long, almost black, and shiny, with reddish legs and somewhat fuscous wings. I sent some of the galls to the Department of Agriculture, and Mr. L. O. Howard informs me that they are the product of Rhodites tuberculator Riley, Ms., an undescribed species. *T. D. A. Cockerell.*

West Cliff, Colo., March 12, 1888.

A NEW UNIO.

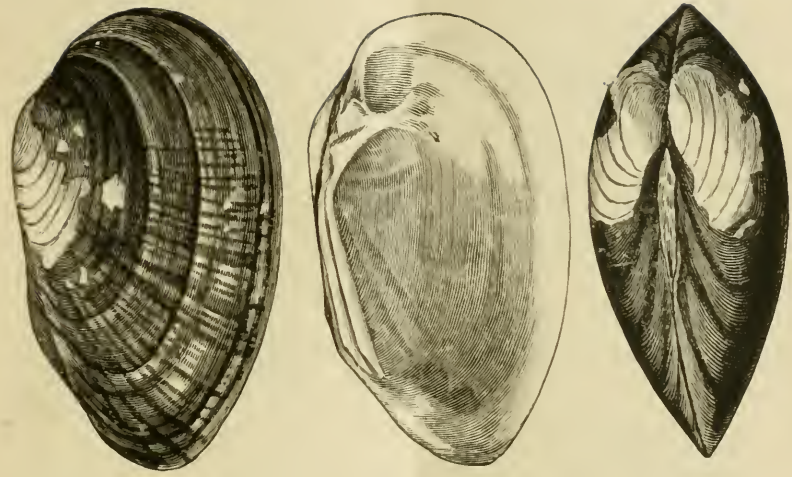
BY S. HART WRIGHT.

Unio Orcuttii (Sp. novo). Shell oblong-ovate, inequilateral, not attenuated posteriorly, abruptly jointed behind, and sometimes slightly biangulated there, in front evenly rounded, basal margin gradually convex, and often nearly straight, dorsal margin nearly straight, or moderately arched. Epidermis variable, olive-brown, or olive-yellow, or reddish-brown, with many faint green rays in fascicles, and three or four zones of growth, of darker color on the dividing lines. Surface smooth and often shining. Umbo obtuse, depressed, and slightly raised above the dorsum. Umbonial ridge much depressed and very obtusely rounded. Posterior slope depressed, scarcely carinated, descending steeply and in nearly a straight line to the joint, which is carried up to the transverse axis. Cicatrices distinct, well impressed, those of the dorsum are over the umbonial cavity. Cardinal teeth short, erect, summits divaricate, granulate, firm.

Lateral teeth slightly curved, arising from the cardinal tooth, acicular at extremity, and groove deep. Nacre a livid-white, copper-colored, or brilliant salmon, or purple, and chocolate colored. Cavity of beaks shallow. Habitat, Manatee River and west coast of Florida (C. T. Simpson), and in Lake Miakka, Florida (Dr. W. Newcomb).

In cabinet of Academy Natural Sciences, Philadelphia, National Museum, and Cornell University. Width 2.35, length 1.5, diameter 1 inch.

Observations. The affinity of this species is with U. Geddingsianus, Lea, but is more oval than the latter. It is with pleasure we dedicate this species to Mr. Charles R. Orcutt, a working conchologist of San Diego, Cal.



UNIO ORCUTTII.—S. HART WRIGHT.

FLORIDA.

SCIENTIFIC MISCELLANY.

(Compiled by Maurice Lopatecki.)

The belief that human beings should sleep with their heads to the north is said to have its foundation in a scientific fact. The French Academy of Science has made experiments upon the body of a guillotined man which go to prove that each human system is in itself an electric battery, one electrode being represented by the head, the other by the feet. The body was taken immediately after death and placed on a pivot, to move as it might. After some vacillation the head portion turned toward the north, the body then remaining stationary. One of the professors turned it half way around, but it soon regained its original position, and the same result was repeatedly obtained until organic movement finally ceased.

The mean height of the land above sea level, according to John Murray, is 2,250 feet, and the mean depth of the ocean is 12,480 feet. Only 2 per cent. of the sea is included inside a depth of 500 fathoms, while 75 per cent. lies between 500 and 3000 fathoms. If the land were filled into the hollows, the sea would roll over the earth's crust to a uniform depth of two miles.

Tigers have lately been reported from two extremes of Siberia —Vladivostock, upon the Japan Sea, and a point to the north of the Caspian Sea. They have long been known in the Chinese forests near Vladivostock, but their appearance in the region of the Caucasus is quite remarkable.

Australia has some giant caterpillars. Mr. A. S. Olliff, of Sidney, mentions one moth larva, abundant during the past season, as being seven inches long, and specimens of larvae of two other species measure eight inches in length.

Occultations of stars and planets are extremely rare, but Dr. Berberich of Berlin, believes observations of them would be very important, throwing light on the extent and density of planetary atmospheres, and in the case of Mars and Venus affording a means for the determination of parallax and diameter.

Mr. E. M. Hasbrouck asserts that ten species of North American birds can be regarded as missing. Of those, two—the great auk and the Labrador duck—are believed to have become extinct, while the following eight, through scarcity or diminutiveness, were 'lost' with the taking of the first specimens, and are now being eagerly sought. The carbonated warbler, blue mountain warbler, small headed warbler, Cuvier's kinglet, Townsend's bunting, Brewster's linnet, Bachman's warbler and the Cincinnati warbler.

The direct conversion of heat into electric work is a problem that continues to tax the ingenuity of the electricians. What seems to be the most promising attempt at solution yet made is a

new thermo-magnetic generator and motor devised by M. Menges, of Hague. Like the recent pyro-magnetic dynamo of Edison, it depends on the fact that the magnetic metals lose their magnetic power when heated. It claims several important advantages, however, the chief being that the necessary alterations of heating and cooling are given automatically, and that the cores of the armature coils are relieved from changes of temperature.

Considerable differences in the standard barometers of the principal European observatories have been found by Mr. E. A. Sundell, of the Scientific Society of Finland.

The shadow of the total solar eclipse of last August was fifty-six times as bright as the light of the full moon, as estimated by the time required to photograph a landscape

The government of Egypt has been pursuaded to make surveys which prove the existence of a depressed region nearly sixty miles long by twenty miles wide, reaching a depth of 250 to 300 feet below high Nile. This depression has for several years been held by Mr. D. Cope Whitehouse to be the site of the wonderful artificial Lake Moeris described by Herodotus—fictitiously, many have believed—with a circumference of 450 miles. The interest at last aroused in Egypt makes it probable that the Nile will soon be admitted to this valley by a canal eleven miles long. The creation or restoration of this great artificial lake will give fertility to a wide area, and will reduce the annual inundations of the Nile, while storing water to replenish the river in dry seasons.

TERMS USED IN TALKING TO DOMESTIC ANIMALS.

EDITORS OF THE WEST AMERICAN SCIENTIST:—In controlling the movements of domestic animals by the voice, besides words of ordinary import, man uses a variety of peculiar terms, calls and inarticulate sounds—not to include whistling—which vary in different localities. In driving yoked cattle and harnessed horses teamsters cry 'get up,' 'click click' (tongue against teeth), 'gee,' 'haw,' 'whoa,' 'whoosh,' 'back,' etc., in English speaking countries; 'arre,' 'arri,' 'jüh,' 'gio,' etc., in European countries.

In the United States 'gee' directs the animals away from the driver, hence to the right, but, according to Webster's Dictionary, in England the same term has the opposite effect because the driver walks on the right hand side of his team. In Virginia mule drivers gee the animals with the cry 'hep-yee-ee-a;' in Norfolk, England, 'whoosh-wo;' in France, 'hue' and 'huhaut;' in Germany 'hott' and 'hotte;' in some parts of Russia 'haitä,' serve the same purpose. To direct animals to the left another series of terms is used.

In calling cattle in the field the following cries are used in the localities given: 'boss, boss' (Conn.); 'sake, sake' (Conn.); 'coo,

coo' (Va.); 'sook, sook,' also 'sookey' (Md.); 'sookow' (Ala.); 'tloñ, tloñ' (Russia); and for calling horses, 'kope, kope' (Md. and Ala.); for calling sheep, 'konanny' (Md.); for calling hogs, 'chee-oo-oo' (Va.).

The undersigned is desirous of collecting words and expressions (oaths excepted) used in addressing domesticated animals in all parts of the United States and in foreign lands.

In particular he seeks information as to:

1. The terms used to start, hasten, haw, gee, back and stop horses, oxen, camels and other animals in harness.

2. Terms used for calling in the field: cattle, horses, mules, asses, camels, sheep, goats, swine, poultry, and other animals.

3. Exclamations used in driving from the person, domestic animals.

4. Any expressions and inarticulate sounds used in addressing domestic animals for any purpose whatever (dogs and cats).

5. References to information in works of travel and general literature will be very welcome.

Persons willing to collect and forward the above mentioned data will confer great obligations on the writer; he is already indebted to many correspondents for kind replies to his appeal for the *Counting-out Rhymes of Children*, the results of which have been published in a volume with that title. (Elliot Stock, London.)

To indicate the value of vowels in English please use the vowels-signs of Webster's Unabridged, and in cases of difficulty spell phonetically.

All correspondence will be gratefully received, and materials used will be credited to the contributors.

Yours truly,

H. Carrington Bolton.

New York City. University Club.

EDITORIAL.

We present a preliminary statement in this issue of The West American Museum of Nature and Art. which will probably be an incorporared institution by the time this reaches our readers. The importance to be attached to the proposed establishment can hardly be over-estimated, and we hope to receive the assistance and co-operation of every scientist on the coast. The proposal has thus far met with most unqualified approval from leading men which is quite gratifying to us and we look forward to the complete success of the undertaking, vast as its scope surely is.

We have to acknowledge the compliment paid us in this number by Dr. S. Hart Wright, the well-known botanist and conchologist, who dedicates a new Unio from Florida to the editor—a courtesy which we appreciate.

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N. A. BIRD EGGS.—Ridgeway's Nomenclature.

1, 10c; 4a, 45c; 11, 10c; 12, 3: 13, 4; 22, 3c; 49, 25c; 56, 25c; 60, 25c; 63, 5c; 67, 5c; 88c, 30; 93, 5c; 122, 20c; 123. 10c; 135, 15c; 145, 25c; 149, 25c; 149a, 20c; 152, 20c; 153, 5c; 154, 5c; 157, 5c; 161, 25c; 164, 25; 170a, 8c; 181, 6c; 182, 20; 183, 20; 197, 6c; 198, 20c; 198a, 55c; 202, 35c; 204, 12c; 204a, 20c; 207, 70c; 211, 3c; 211a, 20c; 217, 30c; 231, 3c; 231, 10c; 237, 20c; 238a, 30c; 240b, 20c; 242, 9c; 244, 18c; 248, 12c; 251, 20c; 254, 12c; 258, 5c; 258a, 45c; 260, 10c; 261, 3c; 261a, 10c; 262, 18c; 264, 15c; 270, 10c; 272, 20c; 274, 10c; 275, 55c; 277, 18c; 278. 7c; 278b, 7c; 232, 8c; 286, 45c; 289, 5c; 301, 18c; 312, 15c; 324, 28c; 358, 70c; 361, 23c; 372, 28: 378, 5c; 378b, 15c; 387, 18c; 395, 60c; 402, 48c; 439a, $1.20; 455, $1.00; 460, 7c; 470a, $1.00; 480, 11c; 480b, 20c; 482, 15c; 490, 18c; 492, 18c; 494, 10c; 495, 15c; 496, 45c; 522, 35c; 555, 35c; 569, 20c; 571, 15c; 573, 45c; 574, 13c; 578, 95c; 579, 15c; 580, 13c; 585, 95c; 606, 10c; 640, 95c; 643 35c; 643a, 30c; 645, 85c; 650, 30c; 656, 20c; 658, 65c; 663, 75c; 668, 60c; 669, 80c; 688, 18c; 690, 10c, 723, 25c; 735, 15c; 743, 35; 763, 25; 763a, 35c; 325a, 28c.

We will exchange for any variety in any quantity at half our list rates. For eggs not in our collection we will allow full rates. Send for list of specimens we desire.

SPECIAL NOTICE.

All parties ordering *goods* from any of our *supply* lists, amounting to $2.00, will receive THE WEST AMERICAN SCIENTIST, *free*, for one year, per special arrangement with it's publisher, C. R. Orcutt.

All ordering eggs or curiosities, from any of our lists, amounting to $1.25, will receive THE WEST AMERICAN SCIENTIST, *free*, for one year.

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A Nomenclature of Colors for Naturalists, and Compendium of Useful Knowledge for Ornithologists.

By ROBERT RIDGWAY,

Curator, Department of Birds, United States National Museum.

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